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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/567,227	02/03/2006	Roel Penterman	NL03980	9563
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EXAMINER KIM, RICHARD H				
ART UNIT 2871		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/567,227

Applicant(s)

PENTERMAN ET AL.

Examiner

RICHARD H. KIM

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 February 2006.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-12 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 03 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date 2/3/06
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Inventor's Patent Application
6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 9-12 rejected under 35 U.S.C. 102(b) as being anticipated by Wu (US 6,187,440 B1).
3. Referring to claims 1, 10 and 12, Wu discloses a liquid crystal display comprising a first sheet and a second sheet, a film of liquid crystal dispersed between the first and second sheet and supporting members extending from the first sheet to the second sheet, the first sheet on one hand and the supporting members on the other hand being formed as separate parts, wherein the supporting members are covalently bonded to the first and second sheet (col. 5, lines 33-44).
4. Referring to claim 2, Wu discloses the device wherein the first sheet has, in accordance with a predetermined pattern and facing the first of liquid, reactive regions and non-reactive regions, the reactive regions being functionalized with chemically reactive groups, and respective supporting members having reactive regions functionalized with chemically reactive groups, the chemically reactive groups of the first sheet and the supporting members having reacted with one another to covalently bond the supporting members to the first sheet at location wherein the first sheet contacts the supporting members (col. 5, lines 33-44). As disclosed by Wu, the reactive regions would be regions of the spacer and the substrate wherein the covalent bonds are formed.

5. Referring to claim 9, Wu discloses the device previously recited, and further discloses that the supporting members are formed as walls partitioning the film or liquid into a plurality of separate liquid crystal filled pockets. Spacers maintain a predetermined cell gap by through a compressive force between opposing substrates (col. 1, lines 21-34). Therefore, the spacers act as walls with a plurality of liquid crystal filled pockets between adjacent spacers.
6. Referring to claim 11, Wu discloses the device wherein the first sheet is, on the side facing the liquid film, provided with an alignment layer (col. 33-44).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 3 and 4 rejected under 35 U.S.C. 103(a) as being unpatentable over Wu in view of Akashi et al. (US 5,679,414).
9. Wu discloses the device previously recited, but fails to disclose the device wherein the film and the supporting members form in combination a stratified-phase-separated composite.
10. Akashi et al. discloses a device wherein the film of liquid crystal and supporting members form, in combination, a phase-separated composite (col. 3, lines 41-col. 4, line 25).
11. It would have been obvious to one having ordinary skill in the art at the time the invention was made for the film and the supporting members to form in combination a stratified-

phase-separated composite since one would be motivated to provide a liquid crystal composite film that can be driven at low voltage, exhibit sufficient contrast, rapid response and excellent heat resistance (col. 2, lines 44-49).

12. Claims 5 and 6 rejected under 35 U.S.C. 103(a) as being unpatentable over Wu in view of Wakahara et al. (US 6,285,382 B1).

13. Wu discloses the device previously recited, and further discloses that the first sheet comprises a base film (col. 5, line 40); and a layer which provides the reactive region (col. 5, line 40). However, the reference does not disclose that the layer is patterned.

14. Wakahara et al. discloses a patterned layer (163).

15. It would have been obvious to one having ordinary skill in the art to pattern the layer in order to minimize the amount of material used to create the bond between the spacer and the substrate by eliminating the need for the layer where bonding is not necessary.

16. Claim 7 rejected under 35 U.S.C. 103(a) as being unpatentable over Wu and Wakahara et al. in view of Fukao et al. (US 6,211,931 B1).

17. Wu and Wakahara et al. disclose the device previously recited, but fails to disclose the device wherein the pattern layer is a mono-layer.

18. Fukao et al. discloses a mono-layer (20).

19. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a mono-layer as the patterned layer since one would be motivated to improve adhesion of the liquid crystal film and the electrode (col. 7, lines 23-33).

20. Claim 8 rejected under 35 U.S.C. 103(a) as being unpatentable over Wu and Wakahara et al. in view of Sashidhar et al. (US 5,578,351).
21. Wu and Wakahara et al. discloses the device previously, but fails to disclose the device wherein the patterned layer is covalently bonded to the base film.
22. Sashidhar et al. discloses a device wherein a layer is covalently bonded to a base film (col. 4, lines 11-22).
23. It would have been obvious to one having ordinary skill in the art at the time the invention was made for the patterned layer to be covalently bonded to the base film since one would be motivated to improve thermal and mechanical stability (col. 4, lines 20-21).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RICHARD H. KIM whose telephone number is (571)272-2294. The examiner can normally be reached on 9:00-6:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571)272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Richard H Kim/
Primary Examiner, Art Unit 2871